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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/066,542

02/05/2002

Osamu Nakamura

740756-2431

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22204

7590

12/27/2004

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EXAMINER

JACKSON JR, JEROME

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 12/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,542

Applicant(s)

NAKAMURA ET AL.

Examiner

Jerome Jackson Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,8-13,15-18,20-23,25-27 and 41-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8-13,15-18,20-23,25-27 and 41-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/17/04, 11/18/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1,3-6,8-13,15-18,20-23,25-27,41-44, and 45-56 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no exact antecedent basis and exact support for the new language in the above claims reciting first and second portions with different crystallinities. The recitations on page 5 line 19 do not support such structures as the specification and figures 2A-2G show a structure wherein the amorphous layer 202 is formed into a crystalline structure with nickel and laser or heat recrystallization. There is no recitation that the upper portion of 202 implanted with rare earth ions is "amorphous" or anything but the same crystallinity as the lower portion. See the description of figures 2A-2G. A different upper layer 206 may be amorphous but it is subsequently removed. The lower layer 202 apparently is crystalline all the way through and is implanted with rare earth ions in its upper layer. The lower portion of 202 "maintains the crystalline structure as much as possible without adding the rare gas element" (page 9 lines 9-10). There is no exact antecedent basis, enablement, or exact support for the language wherein upper and lower portions of layer 202 have different crystallinity. Notwithstanding vague recitations that the upper portion may be "amorphous or crystalline" under certain

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conditions, there is no exact description of these exact conditions (processes) that would enable "amorphous" or "different" crystallinity. The description of figures 2A-2G appear to enable only an embodiment wherein the crystallinities of the upper and lower portions are the same. There is clearly no exact process described to enable an "amorphous" upper portion from figures 2A-2G. The new claim recitations are considered new matter and furthermore non-enabled. There is no clear exact connection between the recitations of page 5 line 19 (amorphous or crystalline) with the process and resultant structure of figures 2A-2G.

Claims 45-56 are rejected as there is no original disclosure teaching how to make a bottom gate device nor any language in the original disclosure reciting the language of claims 45-56. The bare statement that the invention is applicable to a bottom gate device is insufficient to support the language of claims 45-56.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3-6,8-13,15-18,20-23,25-27,41-56, insofar as definite or not "new matter", are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Henley '324.

Henley shows in figure 8 a thin film transistor including a rare gas gettering layer with a "concentration gradient" as is necessary by physics, in a "channel" region 806 between source 801 and drain 802 regions. The gettering layer 807 has "less"

crystallinity than "channel" layers regions above and below the gettering layer.

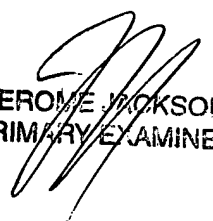
Applicant's "top" gate independent claims are thus rejected (as best understood and definite). The "bottom" gate independent claims are considered obvious alternatives to the top gate structures as applicant has stated that they are obvious variations of a top gate device. The dependent claims reciting intended use or application to displays, projectors, etc. are likewise obvious or considered non-enabled if applicant argues.

Applicant's arguments with respect to all the claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 571 272 1730. The examiner can normally be reached on t-th 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571 272 1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JEROME JACKSON
PRIMARY EXAMINER